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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/930,822	08/15/2001	Robert D. Norman		1377

7590 02/14/2003

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EXAMINER
NGUYEN, KHAI M

ART UNIT	PAPER NUMBER
2819	

DATE MAILED: 02/14/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/930,822	Applicant(s) NORMAN ET AL.	
	Examiner Khai M. Nguyen	Art Unit 2819	

-- The MAILING DATE of this communication appears on th cover sh t with th correspond nce address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 August 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *2* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Specification

1. The application has not been checked to the extent necessary to determine the presence of all possible typographical and grammatical errors. However, Applicant's cooperation is requested in correcting any errors of which he/she may become aware in the application.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ma et al. (US 4,746,879) in view of Cole et al. (US 6,476,682).

Regarding claim 1 & 11-15, Ma et al. discloses a temperature compensated-oscillator circuit of the claimed invention, including, among other things: a temperature sensor having a digital temperature output (Fig. 4: 140 combined with the A/D circuit of the CPU 130); a register (or EEPROM 20) coupled to the sensors for storing the digital output values (Fig. 1 and column 5, lines 9-24); and a memory device (EE PROM 143) coupled to the register via the CPU 130 for storing data (line 29 of col. 9 to line 68 of col. 10), the reference does not explicitly disclose a voltage sensor circuit. However, the claimed voltage sensor comprises a voltage divider, having resisters R0-R1. This

voltage divider circuit is similar to the voltage divider disclosing in the prior art, Fig. 4: resistors R1-R2. This voltage divider circuit combined with the A/D circuit of the CPU 130 will generate digital voltage output. Therefore, it would have been obvious to one person having ordinary skill in the art at the time the invention was made to implement the voltage divider (R1-R2) combined with the A/D of the CPU 130 circuit as a voltage sensor having digital voltage output (column 9, lines 11-17) for the purpose of providing an oscillating frequency which is stabilized against temperature variations and other factors affecting the frequency (column 1, lines 6-12).

Regarding claims 2-4, 6, and 16-20, Ma et al. discloses a temperature-compensated oscillator of the claimed invention, including a look up table (see the summary of the invention), except for showing that the oscillator circuit (138 or 12) is a wake-up oscillator, or a low power oscillator, or a RC oscillator, or a ring oscillator. Cole et al. discloses a temperature compensated oscillation circuit (Fig. 1) including a table 20 for generating a vector to control the oscillator 12, wherein a ring oscillator or any suitable oscillator circuits could be used (see column 5, lines 17-32). It would have been obvious to one person having ordinary skill in the art at the time the invention was made to incorporate the two references by including the look-up table 12 and substituting the oscillator circuit (138 or 12) of the Ma et al. reference by a ring oscillator or any suitable oscillator as suggested by Cole et al. for providing a temperature compensated oscillation circuit that maintains better accuracy than prior compensated circuits over a defined temperature range (column 2, lines 16-56).

Regarding claims 5, 7-9, and 16-18, Ma et al. discloses the temperature compensated oscillator of the independent claims except for that memory device used to generate an adjustment vector(s) and applied it to the oscillator. Cole et al. teaches temperature compensated oscillator having a look up table (20) to drive the capacitor array 22 to adjust the capacitive load on the oscillator(s) so that it maintains a steady, accurate frequency output at the various temperatures (column 4, lines 1-25). It would have been obvious to one person having ordinary skill in the art at the time the invention was made to provide a memory device such as a look up table (20) for the purpose of providing adjustment values to the ring oscillator (column 5, lines 23-27) so that it maintains a steady, accurate frequency output at the various temperatures (column 4, lines 1-25).

Regarding claim 10, Ma et al. discloses a processor (CPU) (of Fig. 4); and a multiplexor (82) coupled to the processor and registers so that to allow multiple inputs from a set of TCO sensors (65) and calibration/test circuits to the system voltmeter 80.

Prior Art

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclose.

Cole et al. (US 6,476,682), Roberts et al. (US 4,922,212), Ma et al. (US 5,912,595), Groves (US 3,531,739), Muto et al. (US 5,801,594), Ma et al. (US 4,746,879), Peduto et al. (US 3,719,838), Fukumura et al. (US 4,611,181), Roberts et

al. (US 4,922,212), and Mori et al. (US 4,308,492) disclose relevant art to the claimed invention.

Contact Information

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khai M. Nguyen whose telephone number is 703-605-4244. The examiner can normally be reached on 8:30 to 5:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael J Tokar can be reached on 703-305-3493. The fax phone numbers for the organization where this application or proceeding is assigned are 703- 308-7724 for regular communications and 703-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-6789.

KN
January 28, 2003

Michael J. Tokar

Michael Tokar
Supervisory Patent Examiner
Technology Center 2800